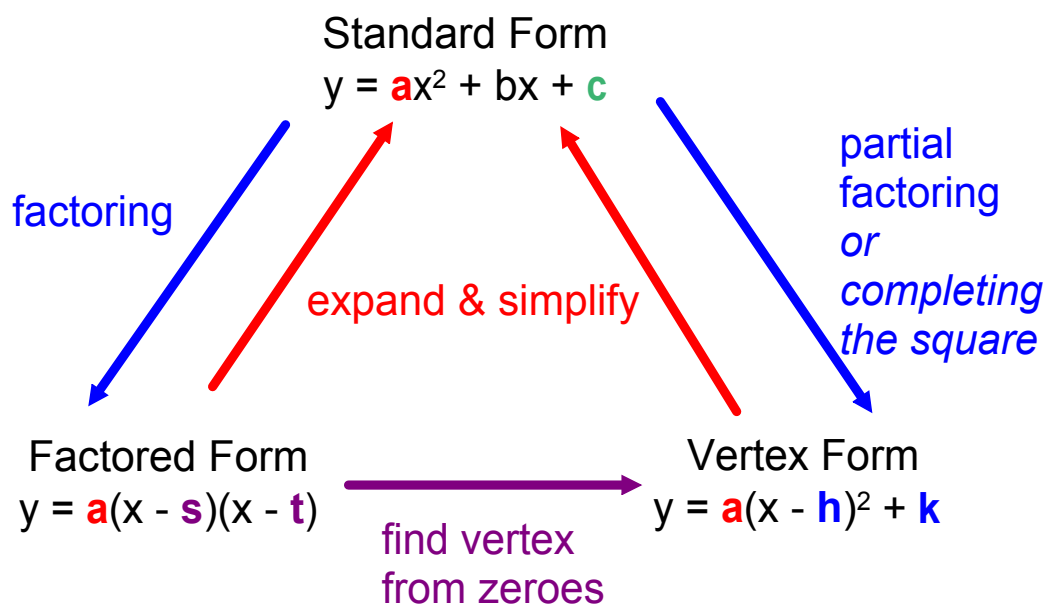


L5(5.5 & 5.6) - Relating Three Forms of a Quadratic Equation



Apr 12-2:18 PM

Ex.1 Expand & simplify each equation to obtain the standard form equation.

(a) $y = 2(x + 5)(x - 1)$

(b) $y = -0.5(x - 4)^2 + 3$

Apr 12-2:18 PM

Ex.2 Write $y = x^2 - 4x + 3$ in factored form and vertex form.

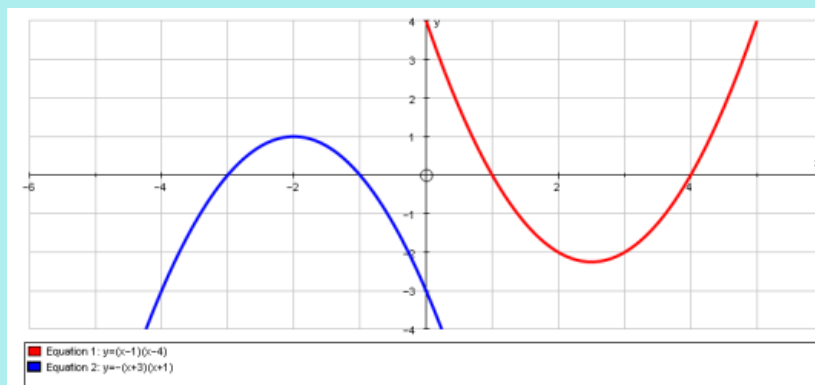
Apr 15-10:32 AM

Ex: Determine the vertex, and the vertex form, of
 $y = x^2 - 12x + 5$

Apr 15-10:43 AM

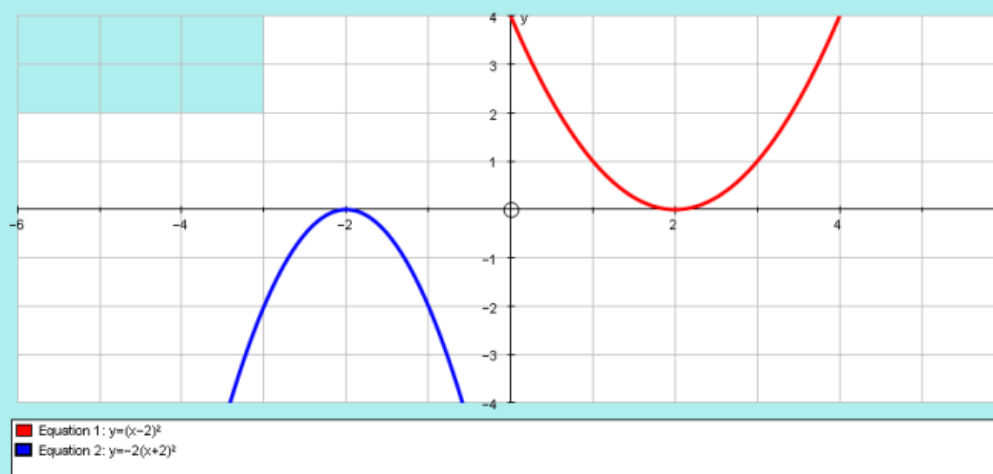
If the parabola crosses the x-axis, the x-coordinates of the crossing points are called the zeroes, or roots, or x-intercepts.

A parabola may have two zeros:



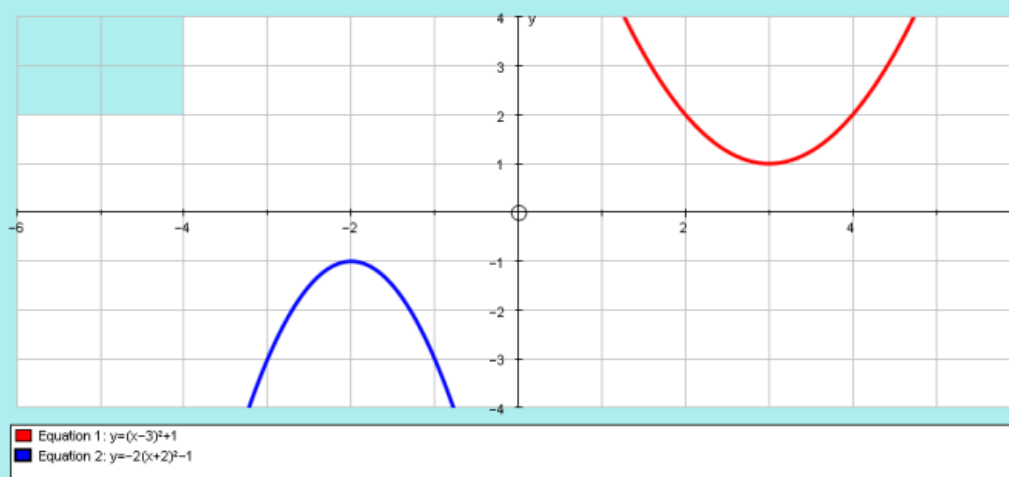
Apr 15-9:06 PM

Or one zero:



Apr 15-9:09 PM

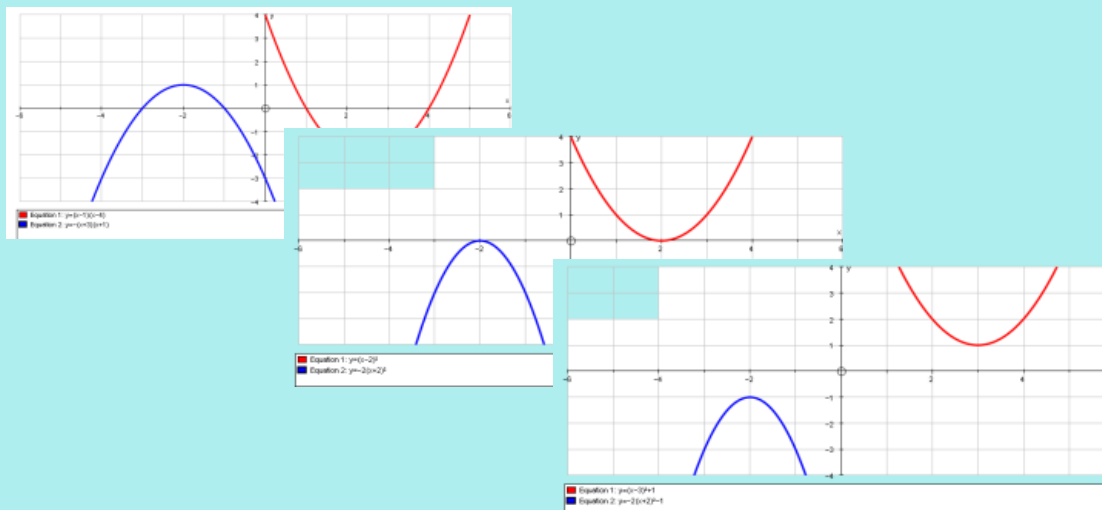
Or no zeroes:



Apr 15-9:12 PM

Recall:

- (1) Factored form indicates the zeroes of the quadratic relation.
- (2) A quadratic relation can have 2, 1, or no zeroes.



Nov 20-8:17 PM

Not all quadratics have zeroes, which means they cannot be factored. Instead, use symmetry to perform a partial factoring.

- 1) Determine two points that have the same y-value.
 - start with a point that is given and then find the matching point with the same y-value
 - the y-intercept is usually a good choice
- 2) Find the x-value of the vertex (h) using symmetry
- 3) Find the y-value of the vertex (k) by subbing h into the original equation.

Apr 12-2:33 PM

Ex.3 Determine the vertex, and the vertex form, of
 $y = x^2 - 12x + 5$

Apr 12-2:42 PM

Ex. 4 Determine the vertex, and the vertex form, of
 $y = -3x^2 + 15x + 2$

Apr 12-2:43 PM

Assigned Work:

p.293 # 4c, 5a, 6a, 9ac, 10c

p.301 # 4c, 5ae, 7c

Apr 15-12:08 PM